

WHAT IS CLAIMED IS:

1. A cured porous calcium phosphate material, comprising at least one penetration pore formed therein, wherein said pore has a diameter of 70  $\mu\text{m}$  to 4 mm, and wherein said material has a porosity of 20% to 80%.
2. A material according to Claim 1, comprising a plurality of penetration pores arranged in a three-dimensional network structure.
3. A material according to Claim 1, further comprising a biocompatible polymer.
4. A material according to Claim 3, wherein the biocompatible polymer is at least one organic polymer selected from the group consisting of: collagen, gelatin, chitin, chitosan and hydroxypropyl methylcellulose.
5. A material according to Claim 1, further comprising a drug.
6. A material according to Claim 5, wherein the drug is at least one drug selected from the group consisting of: an antirheumatic agent; an immunosuppression agent; a sex hormone agent; a hormone agent; a protein bone growth factor; a bone metabolic improver; a cardiac drug; an antiarrhythmic agent; an antibacterial agent; a carcinostatic; and an anti-inflammatory agent.
7. A material according to Claim 6, wherein the drug is an antirheumatic agent selected from the group consisting of di-sodium lobenzarit, bucillamine, Acralite

salazosulfapyridine, and farnesyl acid predonisone.

8. A material according to Claim 6, wherein the drug is an immunosuppression agent selected from the group consisting of methotrexate, an arthrifuge such as colchicine, sulfan pyrazone, probenecid bucolome, benzbromarone, and allopurinol.

9. A material according to Claim 6, wherein the drug is an antidiabetic agent selected from the group consisting of insulin, isoinsulin, protamine zinc isgyline, glibenclamide, tolbutamide, acetohexamide, tolazamide, glybuzole and troglitazone.

10. A material according to Claim 6, wherein the drug is a sex hormone agent selected from the group consisting of estradiol, ethinylestradiol, estriol, mestranol, progesterone, chlormadinon acetate, and methyltestosterone.

11. A material according to Claim 6, wherein the drug is a hormone agent selected from the group consisting of gonadorelin acetate, somatolerin acetate, tetracosactide acetate, vasopressin, glucagon and epitiostanol.

12. A material according to Claim 6, wherein the drug is a protein bone growth factor selected from the group consisting of calcitonin, interleukin-1, interleukin-6, a bone growth factor, an insulin-like simulating factor and a fibroblast growth factor.

13. A material according to Claim 6, wherein the drug is a bone metabolic improver selected from the group consisting of alpha calcdiol, menatetrenone, elcatonin, ipriflavone, di-sodium etidronate, sodium alendronate hydrate.

14. A material according to Claim 6, wherein the drug is a cardiac drug selected from the group consisting of digoxin, aminophylline, dopamine hydrochloride and milrinone.

15. A material according to Claim 6, wherein the drug is an antiarrhythmic agent selected from the group consisting of disopyramide phosphate and pimenol hydrochloride.

16. A material according to Claim 6, wherein the drug is an antibacterial agent selected from the group consisting of cephalexin, cephalothin sodium, gentamicin antibiotic, nitrofurantoin and fosfomycin sodium.

17. A material according to Claim 6, wherein the drug is a carcinostatic selected from the group consisting of cytarabine, mercaptopurine, fluorourasil, 6-mercaptopurine, tegafur and methotrexate.

18. A material according to Claim 6, wherein the drug is an anti-inflammatory agent which is indomethacin.

19. A material according to Claim 1, which is low-temperature curable.

20. A material according to Claim 1, which is heated and cured at 100 - 1200 degrees Celsius.

21. A material according to Claim 1, wherein the penetration pore has a cross-sectional shape that is round, oval, polygonal, or a combination thereof.

22. A method of producing a cured porous calcium phosphate material, comprising the steps of:
- disposing one or more rods in a single plane,
  - introducing into the space adjacent said one or more rods (a) a composition comprising a calcium phosphate cured material precursor and a liquid component, or (b) a composition comprising a calcium phosphate cured material precursor, a biocompatible polymer and a liquid component, whereby the composition surrounds the one or more rods,
  - curing the composition, and
  - removing the rods.
23. A method according to claim 22, wherein a plurality of rods are disposed in a single plane.
24. A method according to claim 23, wherein a plurality of second rods are disposed in a single plane in one or more directions on the first rods.
25. A method according to claim 24, wherein the second rods are disposed in different directions than the first rods.
26. A method according to Claim 22, wherein the composition comprises a drug.
27. A method according to Claim 22, wherein the volume percentage of the one or more rods is 5% to 90% of the cured material.

28. A method according to Claim 22, wherein the one or more rods have a cross-sectional shape of round, oval or polygonal, or a combination thereof.

29. A method according to Claim 22, wherein each of the rods has a diameter of 70  $\mu\text{m}$  - 5.0 mm.

30. A biomaterial comprising the material according to Claim 1.

31. A drug controlled release body comprising the material according to Claim 1.

32. A tissue engineering scaffold comprising the material according to Claim 1.

33. A material according to Claim 1, comprising a plurality of coplanar penetration pores.

34. A material according to Claim 33, comprising a second plurality of coplanar penetration pores that are disposed in a different plane than the first plurality of coplanar penetration pores.

35. A material according to Claim 34, wherein the second plurality of coplanar penetration pores are disposed in different directions than the first plurality of coplanar penetration pores.

36. A material according to Claim 35, wherein the second plurality of coplanar penetration pores are substantially perpendicular to the first plurality of coplanar penetration

pores.